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**Netflex
Vision Document**

Version 2.1

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| Netflex | Version: 2.1 |
| Vision Document | Date: 11/Nov/23 |
| NF-VDG11-V2.1 | |

Revision History

| Date | Version | Description | Author |
|-----------|---------|--|---|
| 23/Oct/23 | 1.0 | The initial version of the Vision Document was filled regarding section: 1,2,3. Remaining sections are: 3.3, 3.4, 4, 5, 6 | Phạm Quốc Duy |
| 29/Oct/23 | 1.1 | The initial version of the Vision Document for PA1 is complete | Phạm Quốc Duy |
| 11/Nov/23 | 2.0 | Updated references (1.1) and stakeholder information (3.1) Add more detail to function number 6, 8 | Phạm Quốc Duy, Đinh Quang Phong, Trần Thành Duy |
| 22/Nov/23 | 2.1 | Update stakeholder information (3.1) | Đinh Quang Phong |

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Vision (Small Project)

1. Introduction

The purpose of this document is to collect, analyze, and define high-level needs and features of the Netflix Movie Streaming Web Application. It focuses on the capabilities needed by stakeholders and the target users and **why** these needs exist. The details of how the Netflix Movie Streaming Application fulfills these needs are detailed in the use-case and supplementary specifications.

1.1 References

1. Render documentations for website deployment, <https://render.com/docs>, accessed on 17/Oct/23
2. EJS - Embedded JavaScript templating <https://ejs.co/#docs>, accessed on 22/Oct/23
3. RUP and its phases - GeeksForGeeks <https://www.geeksforgeeks.org/rup-and-its-phases/>, accessed on 23/Oct/23
4. IBM - Engineering Lifecycle Management - Vision Document https://www.ibm.com/docs/en/engineering-lifecycle-management-suite/lifecycle-management/7.0.3?topic=SSYMRC_7.0.3/com.ibm.rational.rrm.help.doc/topics/r_vision_doc.htm, accessed on 23/Oct/23
5. Vision Document Template
6. UML Diagram - Use Case Diagram <https://www.uml-diagrams.org/use-case-diagrams.html>, accessed on 10/Nov/23

2. Positioning

2.1 Problem Statement

| | |
|--------------------------------|--|
| The problem of | people not being able to watch copyrighted movies of multiple categories for free or with a budget suitable for their income |
| affects | movie enjoyers who can't afford premium subscription plans to view the movies of their personal choice |
| the impact of which is | people have to save up for a long time or maybe access websites that offer such movies but the copyright of the movies themselves is not guaranteed, which can be considered illegal |
| a successful solution would be | providing a movie streaming platform with a wide range of subscription plans from Free to Signature that will suit all types of movie watchers budget-wise and content-wise, hence reduce the access to illegal websites |

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2.2 Product Position Statement

| | |
|---|---|
| For | movie watchers of all types and budget levels |
| Who | like watching movies as a hobby or a leisure activity |
| The Netflix Movie Streaming Application | is a web application |
| That | allows users to watch their favorite movies for free or for a reasonable price |
| Unlike | other movie streaming platforms such as Netflix, Amazon Prime, Disney+... |
| Our product | provides movie watchers in general with a wide selection of movies and subscription plans that will suit all classes of user budget-wise and content-wise |

3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

| Name | Description | Responsibilities |
|--|--|---|
| Practice teacher (Nguyễn Lê Hoàng Dũng) | This stakeholder analyzes the customer's ideas and works with the development team | Communicates with the development team to deliver the project's scope and requirements that suits the customer's needs |
| Development Team (Group 11) | This stakeholder is responsible for the planning, developing, testing and releasing of Netflix | Writing specification documents, program the functionalities based on the use cases, perform unit and system testing, deliver the product to the client |
| MovieDB provider | This stakeholder consists of mainly companies that produce and distributes their films to platforms | Using Netflix to distribute their movies to a wider range of audience and collect user data to make reports on the viewership of the movies distributed |
| Internet Service Provider (ISP) | This stakeholder provides Internet access to users and allows the application to be hosted and function properly | Providing Internet connection for users to use the application and administrators to perform their desired tasks |
| User | This stakeholder uses Netflix to watch movies at anywhere and any time | Using the web application to serve their personal purposes of entertainment via watching movies, TV shows of their choice flexibly |
| Government Agencies | This stakeholder is responsible for the legality of the movie assets and the compliance of Netflix on other laws | Collecting activities data of users and administrators, checking the source of movies to track and stop the spread of pirated content as well as ensuring the compliance of Netflix on other laws |

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| Payment Processors | This stakeholder plays an important role in creating, validating and completing payment transactions in Netflix | Integrating payment management processors for the web application as well as assuring the privacy and safety of user transaction data |
|--------------------|---|---|

3.2 User Summary

| Name | Description | Responsibilities | Stakeholder |
|---------------------|--------------------------------|--|------------------|
| Free movie watchers | Primary End-user of the system | Uses the application to watch copyrighted movies provided for free in the Free Movie list | Self-represented |
| Paid movie watchers | Primary End-user of the system | Uses the application to watch any copyrighted movies with a subscription fee after a certain period of time | Self-represented |
| Administrators | End-user of the system | Manages the Primary End-users and configures the application as well as the list of movies available for Primary End-users | Self-represented |

3.3 User Environment

1. The Netflix Movie Streaming Application will be used by people with the need of watching movies, regardless of age or level of budget willing to allocate for movie watching
2. Netflix should be accessible for all users with any device that has a Web browser and a decently strong Internet connection.
3. Administrators should be able to perform any tasks, functions on the web application that the movie watchers can
4. Movie watchers should be able to perform tasks such as:
 - a. Reporting errors about the interface
 - b. Reporting other accounts for unsuitable behaviors
 - c. Reporting errors about the server that caused the movie(s) to not load up correctly
5. The application shall allow the communication from a Primary End-user to Administrators for questioning or asking for help with technical or other issues that occurred during their experience.

3.4 Summary of Key Stakeholder or User Needs

According to the context of the problems in reality, users, who are in the middle-class or lower, are fond of watching movies in a diverse category, and also, watching them in multiple contemporary devices such as mobile phones, tablets, smart television,...

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| Need | Priority | Concerns | Current Solution | Proposed Solutions |
|--|----------|---|--|--|
| Watching movies on multiple devices in various of category | High | It is not at ease for people who have low income to entertain. | Currently, users have to wait for sales, promotions, and more to be able to be entertained by movies and films. Indeed, users can only be watched only one time per each ticket. | Users are intended to be connected with the internet and are easily able to access many types of movies using a web browser connected with our services with affordable prices, many times. |
| Interactive functionalities between users (movie watcher) and the system administrator for improve content's qualities, which is on the platform | Medium | Inappropriate content is inevitable. This should be eliminated by the admin and the support of users while using the application. | Users can only skip inappropriate content and filling a report with many details needs to be specified. After a period of time, normally 1 month, the report will be taken into account and the admin will take actions. | Reports are now queuing, system administrators will sequentially iterate through one by one and take actions in a short period of time. In addition, content that is on the platform is also checked to ensure user's experiences. |

3.5 Alternatives and Competition

1. Netflix
 - a. Strengths: high growth rate, brand reputation, content originality, customer service,...
 - b. Weaknesses: limited copyright, raising subscription prices, dependence on specific markets,...
2. Amazon Prime Video
 - a. Strengths: affordable services, global reach, great entertainment platform, easy to access,...
 - b. Weaknesses: lack of original content, messy interface, arising platform issues,...
3. Disney+
 - a. Strengths: well-organized UI, content originality, highly accessible, great content catalog,...
 - b. Weaknesses: non-appealing content, expensive,...

4. Product Overview

4.1 Product Perspective

Netflix is a well-known streaming service that offers a wide range of movies, TV shows, documentaries, and other content to its customers. It allows users to watch content over the internet on websites. Subscribers (Free or Paid Movie Watchers) pay a monthly fee to access the platform and can enjoy a vast library of on-demand entertainment. The system in question interfaces with both a billing system that processes online payments from customers and a database system, as depicted in Figure 4.1 below.

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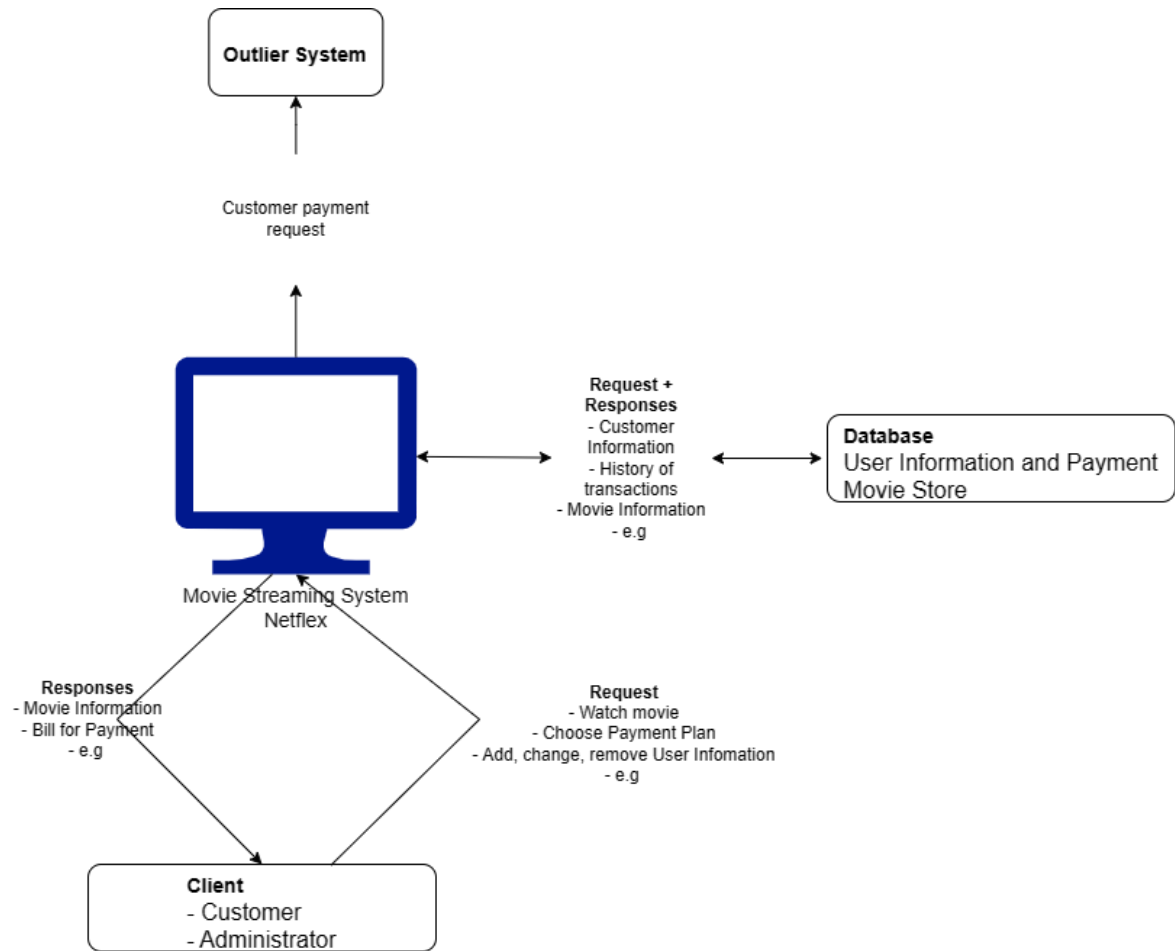


Figure 4.1: Contextual representation of Netflix

The Netflix system includes a database server, server component, and a client component (shown in figure 4.2 below). Both the database system and server are hosted on some hosting platform (will be defined in the next version of this document). The server interfaces with an external banking system. Clients watch movies on the website via the internet. Then they can easily access the Netflix by signing up and logging in with their username and password.

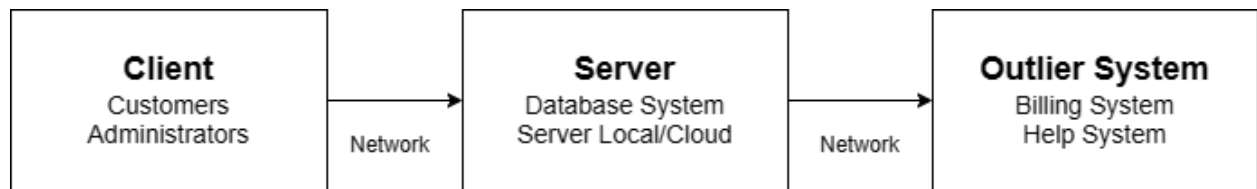


Figure 4.2: System configuration overview

4.2 Assumptions and Dependencies

1. It can be assumed that users have a stable Internet connection while accessing the Netflix web application
2. It is assumed that all of the users' devices and browsers are compatible with the Website
3. The default language of the web application is assumed to be English

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4. For the scope and scale of this project, it also can be assumed that the licensed contents (movies, trailers, ...) and CDN (Content Delivery Network) services are already owned and available for Netflix
5. It is also assumed that Netflix depends on third-party services for tasks related to payment management for the subscriptions: offering different gateways, confirming transactions, transaction security...etc
6. The server has the capability to concurrently accommodate multiple users, including both customers and administrators.
7. Free cloud hosting services may become accessible in the coming years, before the application's deployment.
8. The banking system has the potential for expansion and future integration with other financial institutions.

5. Product Features

| No. | Feature | Description | Priority |
|-----|--|--|----------|
| 1 | Watch movies with different resolutions | Users should be able to watch movies with different resolutions based on their subscription tier: Free: up to 720p, Premium: up to 1080p, Signature: up to 1440p | High |
| 2 | Movie categorization system | Movies displayed on the website are categorized into different genres to allow users to find their desired movie(s) easily | High |
| 3 | Advanced movie searching system | The application should allow users to search for movies based on multiple criterias such as: genre, cast, content, rating, keywords...etc | High |
| 4 | Account creation, verification, log-in and password changing/resetting | Users should be able to create accounts with email or with other social media accounts and log in to the application using that account (CAPTCHA or email verification may be applied for human verification). In addition, users shall also be able to change their password or issue a password reset when they forgot their current password (email verification may be applied to ensure account security). | High |
| 5 | Customer support system | Users should be able to reach out to customer support (operated manually by customer-care teams) on issues encountered during their experience. | High |
| 6 | Movie - Database Management System | The application should be able to give administrators the authority to execute CRUD commands on various types of data such as: movie's metadata,... | High |
| 7 | Subscription plans registration | Users shall be able to select and subscribe to a plan within the three plans provided: Free, Premium, Signature with increasing privileges and additional features. Additionally, users can choose to extend/cancel their subscription any time with ease and flexibility. | High |
| 8 | Subscription payment services | The application shall provide and support multiple | Medium |

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| | | formats of online banking payment for higher qualified subscriptions. | |
| 9 | Movie suggesting system | Users should be able to get suggestions on movies based on their personalized watch and search history, on users' or critics' review or currently trending movies | Medium |
| 10 | Movie trailer display | The movie's trailer should be displayed to the users when they select that movie | Medium |
| 11 | Creating personal watch list | Users should be allowed to create a personal watch list and add movies to it | Medium |
| 12 | Unfinished movies list | The system should be able to add the unfinished movies of the users to a list and allow them to continue watching it later | Low |
| 13 | Parental-administrating account | Users who are parents should be able to monitor view time, limit explicit content, enable academic-oriented content suggestion or searching | Low |
| 14 | Customer review feature | Users can make reviews about their experience with the application as well as the movies that they watched by commenting or giving ratings. | Low |
| 15 | Loyalty programme for customers | User should be able to receive advertisements and coupons via email with their consent as user loyalty promotion | Low |
| 16 | Reminder system | Display reminders/advertisements of upcoming movies | Low |

6. Non-Functional Requirements

1. Movie or trailer must be shown from 60 to 100 frames per second, there also shouldn't be lag or stuttering exist on vast amount of users over the whole server
2. After a client click on playing video button the server should start streaming within 0.1 second
3. The website should be able to handle a large number of concurrent users and each page has to load within 2 seconds, especially during peak times and new movie releases.
4. Netflix website must be capable of dealing with DDOS attacks.
5. On searching for movies from the database, the action is forced to be no more than 1 second
6. In parental mode, the system have to cease the children on watching over 180 minutes as default if parents haven't set the time limit
7. During payment or any kind of transactions, if the server suddenly collapses or client loses connection the status of the database and the account balance must remain unchanged, all of which are required to be conducted under 3 seconds.
8. As many movies are categorized or filtered in different genres, the action of the system is asked to be no more than 0.2 seconds.
9. Despite the overall interference for administrator, there must be no violations to database total constraints
10. Server crashing should be resolved from 3 to 5 minutes
11. Even though maintenance is an indispensable process in such movie websites like Netflix, there must be an announcement for all users about the upcoming update and the event should last under one hour.